

## ABSTRACT

A directional brain stimulation lead assembly provides a lead body and an insulating member defining one or more windows that selectively expose portions of electrodes carried by the lead body to produce a directional stimulation current field. The lead assembly can achieve more effective localization of electrical stimulation to very small brain targets, and thereby reduce the incidence of material side effects caused by collateral stimulation of brain tissue adjoining a desired brain target. In addition, the directional lead can sense brain activity on a more localized basis.